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REPORT

OF A

SERIES OF EXPERIMENTS

MADE BY THE

MEDICAL FACULTY OF LANCASTER, ✓

ON THE BODY OF HENRY COBLER MOSELMANN,

EXECUTED IN THE JAIL YARD OF LANCASTER COUNTY, PA.,

On the 20th of December, 1839.

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CONTEMPLATING a series of experiments, upon the body of Henry Cobler Moselmann, who was sentenced to be hung on the 20th of December, 1839, for the murder of Lazarus Zellerbach, Doctor Washington L. Atlee called upon Anthony E. Roberts, Esq., sheriff of Lancaster County, on the 30th of November, and received from that gentleman, for purposes of science, entire control over the body of the criminal after execution, and permission to make such arrangements as were desired, provided they did not include any direct violation of law.

In furtherance of this object, Dr. W. L. Atlee reviewed the experiments upon the body of Forster, by Aldani; on Clydesdale, by Dr. Ure; and on Williams, by Professors Mitchell and Horner. From these experiments, as reported, and from new suggestions which arose on examining them, a programme was prepared to guide us in our future operations.

The matter was now suggested respectively to Doctors John L. Atlee, Ely Parry and Frederick A. Mughlenberg, and a correspondence was opened between Drs. Atlee and several medical gentlemen of Philadelphia, for the purpose of securing the necessary apparatus, and also of inviting them to be present at the experiments.

A meeting of the medical gentlemen of Lancaster was now called at the office of Dr. J. L. Atlee, on the 11th of December, in order to combine the efforts of the faculty, and to mature all our plans in due time. The programme was laid before the meeting and duly considered, and among the suggestions not embraced in the catalogue of experiments, was one by Dr. George B. Kerfoot, that in instituting artificial respiration, the lungs should be inflated with oxygen gas.

At this meeting, the following committees were appointed to carry out the provisions of the programme, viz:—Doctors A. M. Cassidy and W. L. Atlee, to make the observations before death; F. A. Mughlenburg and Francis S. Burrowes, both

absent, during execution; John Miller and Henry E. Mughlenberg to institute artificial respiration; G. B. Kerfoot and J. L. Atlee to conduct the dissections; W. L. Atlee, Wm. B. Fahnestock and Charles Herlst, absent, to manage the apparatus; E. Parry and Patrick Cassidy, to attend to the application of the galvanic poles; Wm. B. Fahnestock, to make the phrenological examination; and J. K. Neff and J. Augustus Ehler, medical student, to record the results of the experiments. The meeting now adjourned until the evening of the 17th of December.

Not receiving from Philadelphia any favorable reply respecting the apparatus, Dr. W. L. Atlee went there on the 15th of December, and received from the Medical Faculty of Pennsylvania College, the generous and unanimous offer of a new Galvanic battery, consisting of 200 pairs of Wollaston's plates. The programme being submitted to Professors George McClellan, W. R. Johnson, and J. K. Mitchell, the first named gentleman suggested our attention to the action of the penis, which suggestion was afterwards added to the programme, and the last gentleman, the use of nitrous oxide gas in artificial respiration. From further conversation with Professor Mitchell, Dr. Atlee was induced to arrange the order of the experiments somewhat differently, so as to complete most of the important experiments before the dissections were commenced.

On the evening of the 17th of December, the physicians assembled again, Doctors Samuel Haines and John Leonard being now present. The new arrangement of the experiments was now adopted, and all matters arranged, preparatory to the meeting in the prison on the day of the execution; after which the meeting adjourned.

On Friday, the 20th of December, the following gentlemen, in addition to those above mentioned, met in the Lancaster prison, viz:—Prof. W. R. Johnson and J. K. Mitchell, Doctor W. Poyntell Johnston, and Messrs. Van Buren, Kerr, Weir and Lang, medical students from Philadelphia; Doctor Coates of Chester Co.; Doctors Bitner and Dare of Lancaster Co., and Dr. Abr. Carpenter, and Messrs. Carpenter, Landis, Kauffman, Cameron, Lenher, and Hostettor, medical students of Lancaster.

Doctor Haines having been appointed moderator, the following additional arrangements were made. Professor Mitchell and Dr. W. L. Atlee were added to the committee to make observations upon the scaffold; Dr. Johnston was added to the committee on dissections; Professor Johnson and Dr. W. L. Atlee were appointed to collect the expressed air after execution; Mr. Wise, aeronaut, to take charge of the lever of the battery; Professor Johnson and Messrs. Cameron and Hostettor, to experiment with the electro-magnet; Messrs. Landis, Cauffman, Carpenter and Haldeman, to conduct the electrical experiments; and Professor Mitchell and Dr. J. L. Atlee, to institute the experiments of Doctors Pennock and Moore.

This introduction, although not essentially connected with the experiments, will show that the whole matter was carefully matured, by a proper and deliberate organization of medical men, and, in consequence, will give character to the series of experiments, strengthen confidence in the correctness of the report, add weight to the evidence of facts, value to the inferences deduced from them, and will go far in establishing them as truths in science.

The experiments, which follow, are given in connection with the programme, as being the most simple, concise, and satisfactory arrangement I could adopt in drawing up the report.

EXPERIMENTS BEFORE EXECUTION.

PROGRAMME I.—*Collect a portion of expired air before execution, and secure it well in a glass-stoppered bottle.*

Experiment.—Thursday, December 19th, at 11 o'clock, A.M., Doctors Washington L. Atlee and George B. Kerfoot collected sixteen ounces in bulk

of expired air in two eight ounce vials, and secured them well with cork, sealing-wax, and soaked bladder.

PROG. II.—*Examine the general condition of the body.*

Exp. 1.—Thursday, at 11 o'clock A. M., the general condition of the body good, and with the exception of a short white fur upon the tongue, and a slight pain in the head, in perfect health.

Exp. 2.—Friday, December 20th, at 1 o'clock P. M., Doctors John L. Atlee and Kerfoot report the general condition of the body in apparent health, excepting a similar appearance of the tongue.

Note.—Cobler's health before this period was somewhat variable. Dr. Kerfoot says that he prescribed for him in two attacks of intermittent fever before his trial in August last, and Dr. A. M. Cassidy also reports that at this period of his confinement he was troubled with an eruptive disease. After his conviction, Dr. Cassidy visited him in several attacks of disease in the right side of his chest, the cause of which he could trace to large quantities of indigestible and stimulating ingesta. Cobler informed him that he had for several years been subject to eruptions of the skin, and also had repeated attacks of inflammation in the right side.

The jailer says that, until his conviction, Cobler was kept on the ordinary allowance of the prison, with permission to range through the buildings and yard, and that after conviction he was confined in irons to the floor of his room, and allowed to indulge freely in the use of Dutch wine, beer, and the grossest diet.

PROG. III.—*Take the temperature of the body, and the air surrounding it.*

Exp.—Friday, 1 o'clock P. M. The temperature of the body, taken in the mouth, 82° Fahrenheit. Temperature of the room, 70° 5'.

Note.—This experiment is imperfect in consequence of the bulb of the thermometer having been removed from the mouth before the mercury ceased to rise. The tube was attached to a metallic scale, which, evidently producing a disagreeable taste, was soon removed.

PROG. IV.—*Examine the state of the pulse.*

Exp. 1.—Thursday, 11 o'clock A. M. His pulse, examined after the above air was collected, and while he was in a sitting posture, was 80 in a minute. Upon standing up immediately afterwards, it was 117 in a minute. Natural in every respect except its great excitability from motion.

Exp. 2.—Friday, 1 P. M. Pulse varying from 80 to 90; 80 at perfect rest, 90 after coughing.

PROG. V.—*Examine the action of the heart and respiratory organs by stethoscope and other means.*

Exp. 1.—Thursday, 11 A. M. The pulsations of the heart were distinguished by the ear in the whole præcordial region; impulse slight but distinct; sounds of the heart distinct and audible; rhythm perfect.

Sounds, by percussion on the anterior part of the chest, natural and healthy.

Soon after sitting down the number of respirations were 21 in a minute, and their action natural.

Exp. 2.—Friday, 1 P. M. First and second sounds natural; impulse weak and quick; respiration natural.

EXPERIMENTS DURING EXECUTION.

PROG. I.—*Observe closely the action of the body in the agonies of death.*

Exp.—Friday, December 20th, at seventeen minutes past 2 o'clock, P. M. the drop fell. Two or three successive emprosthotonoid efforts of the body were the only motions observed. These spasms were confined to the muscles on the anterior part of the body, from the pelvis up, and they gave a gently swinging motion to the body.

Three minutes after execution there was a slight spasmodic action, which was the last perceived.

PROG. II.—*Take the temperature of the body and the air surrounding it.*

Exp.—Fifteen minutes after 2 o'clock P. M. the temperature of the air was 33° Fahrenheit.

Note.—The thermometer was influenced, in some degree, by the reflection of the sun from the prison walls. Nine minutes after execution the temperature of the body, near the axilla, was 85° Fahrenheit.

PROG. III.—*Examine the state of the pulse.*

Exp.—Dr. Francis Burrowes reporting, and Dr. Frederick A. Mughlenberg recording the results:

3 minutes after execution, pulse 144 in a minute.

3½ " " " " 120 "

4 " " " " 120 "

5 " " " " 150 "

6 " " " " 150 " and scarcely perceptible.

6½ " " " " 155 "

7 " " " " 155 "

8 " " " " imperceptible.

8½ " " " " there is no pulse at the wrist.

The following are results recorded also by Dr. J. K. Neff:

4 minutes after execution, pulse 120 in a minute.

5 " " " " 150 "

PROG. IV.—*Examine the action of the heart and respiratory organs.*

Exp.—Professor J. K. Mitchell, of Philadelphia, reporting, and Dr. J. K. Neff recording results:

4 minutes after execution, sound of the heart obscure, rhythm perfect.

4½ " " " " heart less confused.

5 minutes after execution, the pulsations of the heart are so frequent, that they cannot be counted.

5½ “ “ “ the sounds of the heart are scarcely audible, and the pulsations very frequent.

7	“	“	“	pulsations of the heart 120 in a minute.
7½	“	“	“	“ “ 132 “
10	“	“	“	“ “ 60 “
10¼	“	“	“	more sound than percussion of the heart.
10½	“	“	“	pulsations of the heart 60 in a minute.
11	“	“	“	distinct as to sound, and no percussion.
12	“	“	“	pulsations of the heart 54 in a minute.
12¾	“	“	“	nothing audible.
13	“	“	“	sound entirely gone.

The following are results recorded also by Dr. F. A Mughlenberg:

7	“	“	“	pulsations of the heart 120 in a minute.
7½	“	“	“	“ “ 132 “
10	“	“	“	“ “ 60 “
10½	“	“	“	“ “ 60 “
12	“	“	“	“ “ 54 “
12¾	“	“	“	no audible sound.

PROG. V.—*Observe the action of the penis.*

Exp.—There was an ejection of fluid from the urethra, but no priapism.

Note.—Before commencing the observations during the execution, the watches of the several reporters were compared.

EXPERIMENTS AFTER EXECUTION.

PROG. I.—*Immediately on cutting down the body, and before loosening the noose, perforate the trachea with a large trochar; then withdraw the trochar, insert a gum elastic tube within the remaining canula, draw off a portion of air contained within the lungs, and secure it as before.*

Exp.—The body was taken from the scaffold, placed in a coffin, and conveyed to a room in the prison. It was then taken out of the coffin and placed upon a table insulated by wax, the noose remaining tight.

Thirty-three minutes after execution Dr. J. L. Atlee perforated the trachea, and upon withdrawing the trochar, air rushed out through the canula. Professor W. R. Johnson and Dr. W. L. Atlee now collected twelve ounces in bulk of expressed air. About sixteen ounces of air in all were pressed from the chest. The air was collected in two eight ounce vials, corked and sealed with some water in them.

Note.—In collecting the air, both before and after execution, the same tube was used, and the full of it, in both instances, of atmospheric air, or at least a mixture of it and the breath passed over into the vials in company with the air from the lungs.

PROG. II.—*Relax the noose, and convey the body to the place selected for further experiment.*

Exp.—Forty minutes after execution the noose was divided, and the body shifted to a more favourable position.

PROG. III.—*Attach a bellows to the loose end of the tube, or use Pennock's apparatus to establish artificial respiration, and continue it during the progress of the following experiments:*

Exp.—Forty-five minutes after execution, Doctors John Miller and Henry E. Mughlenberg commenced the use of Pennock's apparatus, but in consequence of the canula, into which the tube was inserted, being straight, and striking perpendicularly against the posterior wall of the trachea, artificial respiration was very imperfectly kept up. There was merely an inflation of the lungs by the bellows, without any corresponding egress of air upon compressing the chest.

PROG. IV.—*Simultaneously with artificial respiration commence the galvanic experiments with flat poles, taking notes of time and temperature repeatedly.*

Note.—So soon as the galvanic experiments were commenced, the compression of the chest in artificial respiration was abandoned; the inflation of the lungs by the bellows was continued during the few first experiments, and the apparatus afterwards removed.

GALVANIC EXPERIMENTS BEFORE DISSECTION.

PROG. I.—*Place the positive pole on the left side of the neck, and the negative pole under the left seventh rib, and also at times on the right, varying the positions of both poles without destroying their contact with the skin.*

Exp. 1.—Forty-seven and a-half minutes after execution. Doctors Patrick Cassidy and Ely Parry having the two poles of the battery applied, the positive upon the left side of the neck, and the negative under the left seventh rib, Professor Johnson threw the fluid upon the plates, which was immediately followed by a spasmodic action of the muscles supplied by the respiratory nerves.

Exp. 2.—Forty-eight minutes after execution, the positive pole being retained upon the neck, Professor Mitchell took hold of the negative pole and applied it to the epigastrium, breaking the circuit frequently by patting the skin with the pole. This produced a violent action of the pectoral muscles, and established the respiratory action, producing audible sounds of breathing, with corresponding motions of the mouth, opening and closing regularly.

Exp. 3.—Fifty minutes after execution, the positive pole being retained, the negative pole was passed along the linea alba down to the pubis. As the pole descended, the respiratory action became stronger and stronger,

and when below the umbilicus it became very powerful, particularly the expiratory efforts. The action of the respiratory organs was general, and air passed in and out of the lungs regularly. The mouth being closed, and a lighted candle held to the nose, the flame was blown out with force. This was repeated five times in quick succession. The candle could not be extinguished so long as the pole was applied above the umbilicus, but so soon as the skin was patted below the umbilicus, these marked results took place. There were regular inspirations and expirations, the flame of the candle passing in and out, so as to singe the hair in the nostrils.

Exp. 4.—Fifty-seven minutes after execution. The positive pole being retained, the negative was removed to the anterior part of the left thigh. Applied to the upper third of the thigh, the same phenomena occurred as in experiment 3d, accompanied with still stronger expiration; but below that point the respiratory muscles did not act well.

Note.—The foregoing experiments were made with the whole force of the battery. The 5th, 6th and 7th experiments, which follow, were made by detaching the pole at the negative end of the battery, and diminishing and increasing the power, by carrying it along the plates.

Exp. 5.—The positive pole being retained, and the negative placed under the left 7th rib, contractions of the muscles of the left side and face followed.

Exp. 6.—The positive pole was placed upon the right side of the neck, and the negative upon the abdomen, producing strong contractions of the muscles of the face, and of the pectoralis major.

Exp. 7.—One hour and one minute after execution. The 6th experiment having been repeated, it was ascertained that the muscular contractions commenced at the 23d pair of plates, and that as the force of the battery was increased, the action of the muscles became stronger. The motion extended to the arm.

PROG. II.—*Retain the positive pole on the left side of the neck, and shift the negative to the left iliac region.*

Exp. 1.—One hour and four minutes after execution. The whole force of the battery now being employed, there followed contraction of the muscles of the left thigh.

Exp. 2.—The positive pole being retained, the negative was placed upon the right iliac region, and produced contraction of the muscles of the right thigh.

PROG. III.—*Retain the positive pole, and shift the negative to the great gluteal muscle over the sciatic nerve.*

Exp. 1.—One hour nine minutes after execution. The muscles contracted strongly and threw the thigh outwards.

Exp. 2.—The negative pole being shifted to the internal surface of the thigh, there was a slight contraction of the triceps adductor femoris.

PROG. IV.—*Retain the positive pole, and shift the negative to the left knee.*

Exp.—One hour fourteen minutes after execution. Contraction of the muscles upon the anterior part of the thigh.

PROG. V.—*Shift the negative pole to the left heel.*

Exp.—Not tried.

PROG. VI.—*Place the positive pole on the forehead, over the supra orbital nerve, and the negative on the left side of the chest.*

Exp.—One hour twenty minutes after execution. All the muscles of the face were thrown into violent action; the angles of the mouth were drawn up, the eyelids closed with a tremulous motion; the occipito-frontalis muscle was drawn down and put into action, giving motion to the scalp.

Note.—In the contraction of the muscles of the face, in no instance was there an expression of passion, but merely a distortion of the countenance, which Professor Mitchell significantly termed *grimace*.

PROG. VII.—*Retain the positive pole, and shift the negative to successive spots on the arms.*

Exp 1.—The negative pole being placed on the skin over the biceps flexor cubiti of the left arm, the flexor muscles acted strongly, raising the arm to the chest.

Exp. 2.—The negative pole, placed over the triceps extensor cubiti and upon the outside of the forearm, caused strong contractions in the extensor muscles of the wrist, with the corresponding motion of the hand.

Exp. 3.—The negative pole placed upon the front of the forearm, produced strong flexion of the arm, and threw the hand upon the chest.

Exp. 4.—The position of the negative pole being frequently varied, and applied in quick succession to different spots, produced various movements of the hand and arm. The extensor and flexor muscles of the hand and fingers being stimulated in quick succession, gave a variety of rapid movements to the hand and fingers, sometimes clenching them, sometimes extending them, and sometimes acting on the index finger alone, giving a position to the hand resembling pointing. During the action of these muscles, the muscles of the face contracted slightly.

Note.—In the clenching of the hand, above mentioned, the first phalanx of the fingers was extended, while the two terminal phalanges were flexed upon it.

PROG. VIII.—*Retain the positive pole and shift the negative to different parts of the face.*

Exp.—One hour and twenty-eight minutes after execution. Irregular action of the lower jaw, masseters acted strongly, compression and closing of the mouth, temporal muscles and orbiculares palpebrarum contracted firmly. When the negative pole was applied to the nose, the muscles of the face acted generally.

✓ *PROG. IX.—Place the positive pole on the back of the neck, and run the negative along the leg.*

Exp.—One hour twenty-nine and a half minutes after execution. The negative pole being carried along the spine, the muscles of the back contracted. Placed upon the gluteal muscles, they acted powerfully, throwing the leg outwards. Placed upon the posterior part of the thigh, the foot was raised, and the leg flexed upon the thigh. Placed upon the calf of the leg, the soleus and gastrocnemii contracted with great power, throwing up the tendo Achillis forcibly and extending the foot.

2011 *PROG. X.—Retain the positive pole, and shift the negative to the forehead and parts of the face.*

Exp.—Those muscles of the face used in mastication were thrown into action, and simulated chewing. There was also a grinding motion of the jaw, and a motion of the lips as in tasting.

2012 *PROG. XI.—Retain the positive pole, and shift the negative to the ham over the sciatic nerve.*

Exp.—The foot was raised, the leg flexed upon the thigh, and the foot extended.

PROG. XI.—Place the positive pole upon the epigastrium, and the negative upon the neck.

Exp.—The scapular muscles, all the muscles of the shoulder, and the serratus magnus were excited.

• *PROG. XII.—Repeat the few first experiments with points, and with the electro-magnet, and electrical battery, and if results should follow, repeat the whole.*

Note.—This was postponed to a subsequent stage of the experiments.

GALVANIC EXPERIMENTS AFTER DISSECTION.

PROG. I.—Place the positive pole on the bed of the left par vagum and sympathetic nerves, and the negative in an incision below the cartilage of the left seventh rib, and to the parts heretofore touched, exposing them all by the knife, using the flat poles.

Exp. 1.—One hour and thirty-four minutes after execution. The dissections were conducted by Doctors Kerfoot and J. L. Atlee, and the parts being exposed, the poles were applied, but no results followed.

Exp. 2.—The two poles now being shifted from the dissected parts to the sound skin over the same parts on the other side, there were also no results.

Note.—The flat poles were now removed, and replaced by leaden points insulated both by oiled silk and glass.

Exp. 3.—The *descendens noni* being in view, it was insulated upon the handle of the knife. The positive pole being applied to it, and the negative in the incision at the seventh rib, there were also no results.

Note.—The failure of these three experiments appearing extraordinary, the cause was looked for, and the plates of the battery were observed not to be immersed.

PROG. II.—*Retain the negative pole in the incision under the seventh rib, and shift the positive upon the phrenic nerve exposed.*

Note.—The exposure of this nerve by dissection, having been deferred until many of the other experiments were completed; and a desire being expressed that the autopsy should be conducted by day-light, a want of time prevented this experiment from being tried.

PROG. III.—*Retain the negative pole, and shift the positive on the par vagum insulated.*

Exp. 1.—The plates being immersed, the negative pole was placed upon the epigastrium, and the positive as directed in the programme. Here followed slight contractions of the muscles of the face, of the side, and of the intercostal muscles.

Note.—In applying the positive point to the insulated par vagum in the above experiments, a spark immediately ran off upon the nerve, producing an audible and a visible crisping of the nerve, with a rapid evolution of steam.

Exp. 2.—The negative pole being detached from one end of the battery and run along the plates, the above experiment was repeated. The results were similar to those which followed the same management of the negative pole in a former experiment.

PROG. IV.—*Retain the negative pole in the incision below the seventh rib, and shift the positive upon the sympathetic nerve insulated.*

Exp.—Not tried.

PROG. V.—*Retain the negative pole, and shift the positive upon the phrenic nerve insulated.*

Exp.—Not tried.

Note.—The nerves upon the right side of the neck, now being exposed by dissection, the two following experiments were tried with the points.

Exp. 1.—The positive pole was placed upon the right spinal accessory nerve, and the negative upon the epigastrium, and no effects followed.

Exp. 2.—The negative being retained, the positive pole was placed upon the right descendens noni, and without any results.

Note.—The eight following experiments were not made in the order of the programme, nor with any reference to its directions. The points were now replaced by the flat poles.

Exp. 1.—One hour and thirty-seven minutes after execution, the positive pole being placed upon the forehead, and the negative on the epigastrium, there followed a slight motion of the right side of the face, and the masseters acted strongly.

Exp. 2.—The supra-orbital nerve now being exposed, above where it passes through the superciliary notch, and not insulated, the positive

pole was applied to it, and the negative to the epigastrium; the results were the same.

Exp. 3.—The positive pole was now placed upon the inner surface of the integuments of the forehead inverted, and the muscles of the face acted moderately.

Exp. 4.—The flap now being replaced, the positive pole was placed on its cuticular surface, and the same parts contracted more strongly.

Exp. 5.—The par vagum, on each side of the neck, now being divided, the positive pole was applied to the forehead, and the negative to the epigastrium, the results were the same as before the division.

Exp. 6.—The lower portion of the divided par vagum of the right side, being lifted out of its bed by the forceps, and the positive pole applied to the cut end of the nerve, there was a slight contraction of the muscles of the right side of the face.

Exp. 7.—The positive pole placed on the forehead, and the negative patted along the linea alba, down to the scrotum, produced slight contractions of the muscles upon the fore part of the body.

Exp. 8.—The positive pole being retained, and a point, substituted for the flat negative pole, being placed upon the epigastrium, no effects followed.

Exp. 9.—One hour and forty-one minutes after execution. The positive pole being retained, the flat negative pole was again brought upon the internal surface of the left arm. The effects were firm contraction of the hand, and the forearm drawn to a right angle with the arm.

PROG. VI.—*Expose the spinal marrow, by removing a portion of the atlas by bone forceps; place the positive pole on it, and the negative on the sciatic nerve, exposed beneath the great gluteal muscle.*

Note.—Nothing having been gained by insulating the nerves in previous experiments, it was considered unnecessary to expose the spinal marrow. The dissection, however, was prosecuted through the soft parts upon the back of the neck, for the purpose of passing the positive pole down to the spinal cord, just below the occiput. But upon probing with the finger the point where the atlas and dentata articulate, the dissectors discovered an unusual state of the parts, and which created some suspicion of dislocation. Considerable interest was excited in several of the medical gentlemen present, and the question of displacement not being settled, it was agreed to abandon that part of the neck for future examination, and to divide the spinal cord lower down.

Exp. 1.—The spinal marrow was now divided between the third and fourth cervical vertebræ, and the sciatic nerve of the right side exposed beneath the gluteus maximus. The flat poles still being attached, the positive was passed in between the bones down to the divided ends of the cord, and the negative was placed upon the sciatic nerve, the pole being

also in contact with the divided fibres of the muscle. Contractions of the gluteus maximus resulted.

Exp. 2.—The positive pole being retained, the negative was placed upon the skin over the great gluteal muscle, and this was followed by stronger contractions of the same parts.

Exp. 3.—The sciatic nerve was now insulated upon the handle of the knife, and the negative pole brought in contact with it. The effects were not so strong, and were more local.

Exp. 4.—The third experiment was repeated, observing how much of the pole came in contact with the nerve. Same results followed.

Exp. 5.—The same extent of the negative pole was now brought in contact with the adjacent skin, and the result was precisely the same as in Experiment 4.

PROG. VII.—*Expose the cerebrum and cerebellum. Place the positive pole upon the upper surface of the corpus callosum, and the negative to the lower limbs and other parts.*

PROG. VIII.—*Shift the positive pole to the posterior lobes of the cerebrum, and use the negative as before.*

PROG. IX.—*Shift the positive pole to the surface of the cerebellum, and the negative to the lower part of the back and to the penis.*

PROG. X.—*Expose the medulla oblongata. Place the positive pole on it, and the negative on the sciatic nerve.*

PROG. XI.—*Vary the position of the positive pole on parts of the medulla oblongata, and also vary the negative pole.*

Note.—The above five sections of the Programme were passed over for the same reason that prevented us from exposing the spinal marrow.

One hour and fifty-nine minutes after execution. Desiring to examine the appearance of the viscera by day-light, the experiments were suspended until the contents of the abdomen were examined. The post-mortem dissection for this purpose was conducted by Dr. W. Poyntell Johnston, a delegate from the Pathological Society of Philadelphia. The appearances will be given at another place, in the proper order of the programme.

PROG. XII.—*Expose the heart. Apply the positive pole to the incision in the neck, and the negative to the external surface of the heart. Should the heart act well in this, or any of the following experiments, repeat the experiments of Doctors Pennock and Moore on animals.*

Exp. 1.—The positive pole being placed in the incision on the neck, and the negative upon the external surface of the pericardium, the muscles of the face moved, and the eyes opened and shut repeatedly. No action of the heart observed.

Exp. 2.—The positive pole being placed upon the skin of the neck, and the negative retained, the same parts contracted, but with more force. No action of the heart.

Exp. 3.—Two hours sixteen minutes after execution. The pericardium

being opened, and the positive pole shifted to the right side of the face the negative was placed upon the external surface of the heart. The mouth contracted, but there was no action of the heart observed.

Exp. 4.—The positive poles being retained, the negative was placed upon the external surface of the left ventricle. No action of the heart.

PROG. XIII.—*Puncture the descending cava. Pass the negative wire insulated into the cavities of the right auricle and ventricle.*

Exp.—The pulmonary artery being punctured, and the leaden points attached, the negative point was passed into the right ventricle, and the positive placed upon the right side of the face. There followed a vermicular motion of the periphery of the right auricle.

PROG. XIV.—*Puncture the aorta. Pass the negative point into the left ventricle.*

Exp.—The same effects as in the last experiment.

PROG. XV.—*Reverse the poles.* *Exp.*—Not tried.

PROG. XVI.—*Place the positive pole upon the spinal marrow, and the negative in the heart.* *Exp.*—Not tried.

PROG. XVII.—*Place the positive pole on the cerebrum and cerebellum, and the negative in the heart.* *Exp.*—Not tried.

Note.—Not being able to establish the action of the heart at this stage of the programme, the experiments of Doctors Pennock and Moore could not be repeated.

PROG. XVIII.—*Expose the abdominal viscera. Apply the positive pole to the sympathetic nerve in the neck, and the negative to the different viscera. Afterwards shift the positive to the several parts of the neck and head before touched.*

PROG. XIX.—*Shift the negative to the diaphragm.*

Note.—In consequence of the post mortem examination having been made, the 18th and 19th sections of the programme were abandoned.

PROG. XX.—*Expose the axillary plexus. Apply the positive pole to it, and the negative to the different parts of the arm and wrist.*

Exp.—Not tried.

Note.—Several of the experiments in the foregoing part of the programme were passed over for want of time.

PROG. XXI.—*Repeat the experiments with other poles and other apparatus.*

EXPERIMENTS WITH THE ELECTRICAL BATTERY.

Exp. 1.—Two hours and twenty-eight minutes after execution. The battery having been charged by Dr. W. L. Atlee, Mr. S. S. Haldeman applied the internal chain to the right side of the neck, and Mr. Henry Carpenter, student of medicine, applied the external chain to the right iliac region. The muscles on the anterior part of the right thigh contracted upon the accession of the spark.

Exp. 2.—The same experiment was repeated with the same results.

Exp. 3.—The internal chain was brought in contact with the right auricle of the heart, and the external with the apex of the heart. No contraction.

Exp. 4.—The same experiment was about being repeated, but the internal chain touched the right shoulder, and the shock passed in that direction. No contraction.

EXPERIMENTS WITH THE ELECTRO-MAGNET.

Exp. 1.—Two hours and thirty minutes after execution. Professor Johnson managed the machine, while Messrs. Cameron and Hostettor, medical students, applied the wires. One pole was applied to the right side of the face, and the other to the right iliac region. No results.

Exp. 2.—One pole was applied in front of the ear, and the other upon the forehead. No results.

AUTOPSY.

After the body was removed from the scaffold to the room in the prison, and the face uncovered, there was observed no distortion of the features, no protusion of the tongue, nor any marked congestion of the face.

One hour fifty-nine minutes after execution, Doctor Johnson commenced the examination of the abdominal viscera, and reported that on a superficial examination, the liver was enlarged and excessively congested, its convex surface having a marbled appearance, but otherwise healthy. The spleen was congested, and the intestines somewhat injected. In other respects all the abdominal viscera healthy.

The stomach was removed and examined; it was natural externally, contained about two ounces of fluid, the rugæ internally were very large but healthy, and the size of the stomach rather small.

The liver being cut into, black blood ran out; it was excessively engorged with black blood; a small piece, taken into the hand and squeezed, the blood passed out as from a saturated sponge.

Dr. Johnson also examined the fluid ejected from the urethra. This was done immediately after stripping the body and before the experiments commenced. The fluid was mucous, holding a few salts in solution, and containing no spermatic animalculæ. The examination was made by Wollaston's Microscopic Doublet.

As connected with the post-mortem appearances, although not examined with any pathological view, it may be observed that the pericardium contained about two drachms of fluid; the heart was of natural size and colour, and flaccid, containing no blood in any of its cavities.

In the right cavity of the chest, there were firm adhesions between the two layers of the pleura. In the left cavity none existed. The lungs were apparently healthy.

Upon puncturing the trachea with the trochar, no blood issued from the

wound or from the canula. Nor was there any when the lungs were inflated by the bellows. So soon, however, as the respiratory action was established by the galvanic influence, there was a considerable discharge of frothy blood from the canula.

The jugular vein having been accidentally cut while seeking for the par vagum, a large quantity of blood was discharged from it.

Immediately after dividing the spinal marrow, there run out about four ounces of serous fluid, followed by an immense discharge of blood, which continued to flow for a considerable time after.

With regard to the dislocation of the neck, Doctors Fahnestock and Kerfoot, who made the examination subsequently, reported that they discovered no dislocation of the cervical vertebræ; no rupture of the transverse ligament; no fracture of the processus dentatus, and consequently there had been no displacement.

PHRENOLOGICAL DEVELOPMENTS.

The following report, drawn up by Dr. Fahnestock, and presented to a meeting of the physicians of Lancaster, was unanimously adopted, and ordered to be inserted into this part of the general report, viz:—

Age, his own statement, 21.—Supposed to be 28 or 30. *Temperament*—Bilious Lymphatic. *Size*—About five feet ten inches. *Figure*—Very broad, strong, and muscular. *Eyes*—Dark brown. *Hair*—Black.

TAPE MEASUREMENTS—Of the Head, the Hair being removed.

	Inches.	Inches.
Circumference of the head around Philoprogenitiveness, Secretiveness, and Individuality, - - -	Scalp 23.	Skull 21.5
Circumference of the head around Philoprogenitiveness, Secretiveness, and Eventuality, - - -	22.5	21.

CALLIPER MEASUREMENTS.

From Occipital Spine to Individuality, - - -	8.	7.7
From Philoprogenitiveness to Individuality, - - -	7.9	7.6
From Self Esteem to Individuality, - - - -	7.2	6.8
From Ear to Individuality, - - - - -	4.8	4.6
From Ear to Eventuality, - - - - -	4.9	4.7
“ Comparison - - - - -	5.	4.8
“ Benevolence, - - - - -	5.4	5.
“ Reverence, - - - - -	5.4	5.
“ Firmness, - - - - -	5.6	5.1 full.
“ Self Esteem, - - - - -	5.5	5.1
“ Inhabitiveness, - - - - -	5.4	4.8
“ Philoprogenitiveness, - - - - -	5.	4.7
“ Amativeness, - - - - -	4.6	4.4
From Cautiousness to Cautiousness, - - - -	5.7	5.4
From Ideality to Ideality, - - - - -	5.3	4.8
From Constructiveness to Constructiveness, - - -	5.4	4.5

		Inches.	Inches.
From Destructiveness to Destructiveness,	- - - Scalp	6.1	Skull 5.6 full.
From Secretiveness to Secretiveness,	- - - -	6.1	5.6 full.
From Aquisitiveness to Aquisitiveness,	- - -	5.9	5.4
From Combativeness to Combativeness,	- - -	5.6	5.3
From Alimentiveness to Alimentiveness,	- - -	5.9	5.1

CRANIOMETER MEASUREMENTS.

From the Ear, or Medulla Oblongata, to Alimentiveness,	3.4	2.7
“ “ Destructiveness,	3.4	3.
“ “ Amativeness, -	3.9 full.	3.8
“ “ Philoprognitiveness,	4.4	4.2
“ “ Adhesiveness,	4.3	4.
“ “ Inhabitiveness,	4.6	4.4
“ “ Combativeness,	3.8	3.6
“ “ Secretiveness,	3.7	3.4
“ “ Acquisitiveness,	4.1	3.9
“ “ Constructiveness,	3.7	3.
“ “ Cautiousness,	4.4	4.2
“ “ Approbativeness,	4.7 full.	4.5
“ “ Self Esteem,	4.9	4.7
“ “ Benevolence,	4.9	4.6
“ “ Reverence,	4.9 full.	4.6
“ “ Firmness,	5.1	4.8
“ “ Conscientiousness,	4.8	4.5
“ “ Hope,	4.8	4.5
“ “ Marvellousness,	4.5	4.3
“ “ Ideality,	4.	3.8
“ “ Mirthfulness,	4.3	4.1
“ “ Imitation,	4.7	4.4
“ “ Individuality,	4.3 full.	4.2
“ “ Configuration,	3.6 full.	3.5
“ “ Size,	4.3	4.
“ “ Weight,	4.2 full.	4.1
“ “ Colouring,	4.3	4.1
“ “ Locality,	4.5	4.2
“ “ Order,	4.3	4. full.
“ “ Calculation.	4.	3.9
“ “ Eventuality,	4.5	4.3
“ “ Time,	4.3	4.1
“ “ Tune,	4.	3.4
“ “ Language,		
“ “ Comparison,	4.7	4.5
“ “ Causality,	4.6 full.	4.4

Organ of Language, moderate.

“ Love of Life, large.

The calliper measurements from the Occipital Spine to Individuality, Philoprognitiveness to Individuality, Self Esteem to Individuality, and all the succeeding admeasurements from the ear to the organs which follow, together with those of the craniometer over the same points, were made to

the centre of the front, top, and back parts of the head. The rest were taken to the centre of each organ, alike with both instruments.

The measurements over the scalp and skull differ very little, except over the organs of Benevolence, Reverence, Firmness, Self Esteem, Inhabitiveness, Philoprogenitiveness, Constructiveness, and Alimentiveness, where the integuments were unusually thick.

The skull is of moderate thickness, except in the regions of Destructiveness, Secretiveness, Alimentiveness, Cautiousness, Combaticiveness, Causality, Imitation, Self Esteem, Amativeness, Love of Life, and the site of Tune, where it is very thin, and if a lighted taper be introduced into the skull, it is quite transparent over the above organs, whilst all the rest are dark, particularly over the regions of Reverence, Benevolence, Conscientiousness, Hope, Marvellousness, Ideality, Constructiveness, Approbateness, Inhabitiveness, Adhesiveness, and Philoprogenitiveness.

These, I believe, are all the essential facts connected with his developments, and as this paper is to accompany those of the experiments upon his body, I have refrained from any remarks upon his character, and shall close my report by stating that the measurements were taken in the presence of Dr. G. B. Kerfoot, to whom I am much indebted for many favours, and the free access which I at all times had to pursue my phrenological investigations.

I am, Gentlemen, yours very respectfully,

WILLIAM B. FAHNESTOCK.

To the Physicians of the City of Lancaster.

CHEMICAL ANALYSIS OF THE BREATH.

Portions of air collected before and after execution were transmitted to Philadelphia for analysis. The following is an extract of a letter received from Professor W. R. Johnson, containing the results of his analysis, viz.

Med. Depart. Pennsylvania College, Philad. Jan. 7, 1840.

DR. WASHINGTON L. ATLEE,

DEAR SIR: I have received the two vials containing portions of the breath of Cobler, collected before and after execution respectively, and have submitted them to such examinations as the nature of the case seemed to require, in order to demonstrate the relative degrees of deterioration which they had suffered from the action of the lungs.

In conformity with this purpose, I have sought to ascertain the relative proportions of oxygen, azote, and carbonic acid found in the two samples.

1. The contents of the two vials were first placed in suitable receptacles over mercury, and subjected to the desiccating action of chloride of calcium for eighteen hours.

2. The air was next examined for carbonic acid, when it was found by exposure to pure potassa that the portion collected before execution lost 2.609 per cent. of its bulk by absorption of the potassa, while that taken from the lungs after execution lost 7.7 per cent.

3. The next step was to ascertain the proportion of oxygen and azote in the remainder thus freed from carbonic acid. For this purpose the method of detonating with hydrogen was employed. By three several trials on the breath taken before execution, I obtained a mean of 18.33 per cent. of the compound of oxygen

and azote for the proportion of the former ingredients; which is 17.84 per cent. of the original bulk of air before the carbonic acid had been separated.

4. Deducing, by difference, the quantity of azote, the breath collected before execution, appeared to be composed of

Oxygen	17.84	parts
Azote	79.551	"
Carbonic Acid	2.609	"

100.

5. Three several attempts were made with breath collected after execution, to produce a detonation with hydrogen, but though the proportions of the hydrogen and air were varied to a great extent, no combination whatever could be effected.

6. A portion of this air was next heated in contact with clean phosphorus, but though the latter was melted, and continued for several minutes in fusion, at a temperature which would inevitably have inflamed it, had oxygen been present, yet no signs of combustion were exhibited.

Though these trials had convinced me that the breath taken after execution was wholly destitute of oxygen, yet I did not omit that very delicate test, furnished by the binoxide of nitrogen. A portion of this gas was therefore brought in contact with the air, but on several repetitions not the slightest change of colour was found.

7. We are therefore warranted in the conclusion, that the air drawn from the trachea before loosening the noose, is composed of

Carbonic Acid	7.7
Azote	92.3

100.

Hence it should seem that the portion of carbonic acid left in the air after strangulation, is not nearly the equivalent of the oxygen of pure atmospheric air.

I remain very respectfully, your ob't serv't.

WALTER R. JOHNSON.

The following are the detailed results of an analysis made by Dr. Washington L. Atlee, of Lancaster, on portions of the breath taken from the same bottles which contained those in the above analysis of Professor Johnson.

To the Medical Faculty of Lancaster,

GENTLEMEN:—I herewith present to you my analysis of the breath of Cobler, both before and after execution.

BREATH AFTER EXECUTION.—1. I subjected 120 volumes of the breath collected after execution to the action of freshly fused chloride of calcium, for twenty hours over mercury, but observing moisture still adhering to the sides of the tube, I did not consider the air properly desiccated, and determined to make the necessary correction for vapour.

2. I now prepared a stick of pure alcholic potassa from the vegetable caustic of commerce, and immediately after its consolidation, I placed it moistened within the air in the tube. The mercury in the Fahrenheit's thermometer stood at 53°, and in the barometer 29.70 inches. After several hours had elapsed, the potassa was replaced by a fresh portion, and was not withdrawn until after the expiration of 24 hours; 115 volumes remained in the tube, the thermometer standing at 62° F., and barometer 29.54. Now, making the necessary corrections for temperature, atmospheric pressure, and aqueous vapour, the original bulk of the air would be 123.419877 volumes, and consequently the number of volumes absorbed by the potassa, would be 8.419877, which in the 100 parts, would make the proportion of 6.82214 volumes.

The amount of carbonic acid gas, therefore, existing in 100 parts of the breath collected after execution, agreeably to the above results, would be 6.82214 volumes.

The air thus deprived of its carbonic acid, was now subjected to a qualitative analysis for the purpose of detecting the presence of oxygen gas.

3. A piece of potassium being introduced, its metallic lustre soon disappeared, and it became encrusted with white. After remaining in the air $4\frac{1}{2}$ hours, I removed it, and found it converted to a protoxide, excepting the central nucleus which preserved its metallic character.

4. A piece of clean phosphorus was now passed into the same gas, and subjected to the heat of a spirit lamp. The phosphorus was fused, and kept in that condition for some moments. There was no ignition, but the fused phosphorus emitted a thin white vapour, and as the heat was not sufficient to volatilize the phosphorus, this effect must have proceeded from its union with oxygen.

Having been convinced by these results, that the breath collected after execution contained an appreciable portion of oxygen gas, I now took another portion of the breath, in order to subject it to the quantitative analysis.

5. For this purpose, I made use of Hare's aqueous sliding rod hydro-oxygen eudiometer and calorimotor, both constructed by Mason, of Philadelphia. Four successive trials were made with different proportions of hydrogen, and although in no instance was there any explosion or detonation perceptible, yet in every instance, there followed a diminution of bulk in the air contained within the eudiometer. The following are the respective experiments, viz.:

Experiment First.—Breath 100 volumes; hydrogen gas 10; after ignition $3\frac{1}{2}$ volumes consumed.

Exp. Second.—Breath 100 volumes; hydrogen gas 15; after ignition 3 volumes consumed.

Exp. Third.—Breath 100 volumes; hydrogen gas 20; after ignition 3 volumes consumed.

Exp. Fourth.—Breath 100 volumes; hydrogen gas 30; after ignition $3\frac{1}{2}$ volumes consumed.

Now, taking the average of these four experiments, as the correct result, there would be a condensation of 3.20833 volumes of the mixture, which would give 1.06944 volumes as the proportion for oxygen gas.

The amount of oxygen gas, therefore, existing in 100 parts of the breath, collected after execution, agreeably to the foregoing results, would be 1.06944 volumes.

6. Having derived the quantities of carbonic acid and oxygen gases by direct experiment, it is fairly inferred that the balance of the breath is nitrogen.

As, therefore, the remaining air would amount to 92.10842 volumes, I am authorized by the above analysis, in stating, that the breath collected after execution, is constituted of

Carbonic acid gas	6.82214 parts
Oxygen gas	1.06944 “
Nitrogen gas	92.10842 “

100.

BREATH BEFORE EXECUTION.—1. 103 volumes of the breath collected before execution, was placed over water, the thermometer standing at 63° F., and the barometer 29.44. A stick of clean phosphorus was introduced and permitted to remain for 12 hours. This was now exchanged for a fresh portion, and finding, at the expiration of 26 hours, that absorption had ceased for several hours, I fused the phosphorus without producing ignition or the evolution of white fumes, and then removed it. 91 volumes remained in the tube, the thermometer at 68° 5' and barometer at 29.34. Now making the corrections for temperature, atmospheric pressure, and aqueous vapour, the original bulk of the gas would be 104.140552 volumes, and deducting $\frac{1}{40}$ th of the bulk of the remaining 91 volumes for the vapour of phosphorus, which would reduce the air in the tube to 88.725 volumes, the number of volumes absorbed would be 15.415552, which in the 100 parts would make the proportion of 14.80168 volumes.

The amount of oxygen gas, therefore, existing in 100 parts of the breath before execution, according to the above results, would be 14.80168 volumes.

84 volumes of the air thus deprived of its oxygen, were now placed over mercury in order to ascertain the quantity of carbonic acid gas. Thermometer 68° ,

barometer 29.27, and column of mercury within the tube, 2 7-10 inches above the surface of the mercury outside the tube.

2. It was now subjected to the action of alcoholic potassa, as in the previous analysis, for 17 hours. It was then removed, and a solution of it was permitted to float above the mercury in contact with the air for 8 days longer. There now remained 80 volumes in the tube. Thermometer 63° , barometer 29.509 and column of mercury in the tube 3 1-10 inches above the surface outside. The corrections being made for temperature, barometric pressure, and aqueous vapour would reduce the original bulk of air to 82.010933 volumes, which would make a difference of .2010933 inches in the height of the mercurial column in the tube, before and after the experiment, and the necessary correction for this would reduce the 80 volumes remaining in the tube to 79.450377 volumes, which deducted from the above original bulk as corrected, will give the true amount absorbed by the potassa, or 2.560556 volumes. Now the proportion for 100 parts would be 3.122213 volumes.

The amount of carbonic acid gas, therefore, existing in 100 parts of the breath before execution, according to the above analysis, would be 3.122213 volumes.

3. In order to test the correctness of the quantitative analysis of the breath for oxygen gas, by means of the phosphorus, I next made five successive trials with Hare's eudiometer on fresh portions of the breath, varying the proportions of the mixture each time, as follows, viz.:

Experiment First.—Breath 100 volumes; hydrogen gas 60; after ignition 49 volumes consumed.

Exp. Second.—Breath 100 volumes; hydrogen gas 65; after ignition $50\frac{1}{2}$ volumes consumed.

Exp. Third.—Breath 100 volumes; hydrogen gas 75; after ignition $41\frac{1}{2}$ volumes consumed.

Exp. Fourth.—Breath 125 volumes; hydrogen gas 75; after ignition $50\frac{1}{4}$ volumes consumed.

Exp. Fifth.—Breath 110 volumes; hydrogen gas 65; after ignition $47\frac{3}{4}$ volumes consumed.

Now taking the average of the results of these five experiments, there would be a condensation of 44.92182 volumes of the mixture, which would give 14.97394 volumes as the proportion for oxygen gas. This result, I consider, as a remarkable approximation to the analysis by phosphorus, and comes far within the limits of the errors of observations. Taking now the average of the six separate analyses as the correct number, the amount of oxygen gas, existing in 100 parts of the breath collected before execution, would be 14.94523 volumes.

4. The amount of carbonic acid and oxygen gases being known, the balance of the breath is put down as nitrogen.

As, therefore, the remaining air would amount to 81.932557 volumes, the results of my analysis of the breath before execution would be as follows, viz.:

Carbonic acid gas	3.122213	parts
Oxygen gas	14.945230	"
Nitrogen gas	81.932557	"

100.

In connection with the chemical analysis, it is proper to observe that the criminal had been confined for a considerable time in a close apartment, heated by an anthracite fire, and that the breath before execution was collected from him while in this apartment. It may also be stated, that both the air collected before and after execution, was confined in bottles containing water. How far these circumstances may have affected the relative proportions of the constituents, it would be impossible now to determine, and yet they should be taken into the account in reviewing the above analysis.

I would also observe, that in prosecuting this analysis, a tube, graduated for a rain guage, was employed, and that I contemplated repeating it with a regular eudiometer, but was disappointed in procuring one. I, however, submit it to your consideration, conscious of having given to the subject my utmost care.

Yours respectfully,

WASHINGTON L. ATLEE, M. D.

APPARATUS EMPLOYED IN THE EXPERIMENTS.

Galvanic Battery.—The galvanic battery was procured for the occasion from the Pennsylvania Medical College, Philadelphia. It possessed considerable power, and was composed of 200 pairs of Wollaston's plates, and constructed on Professor Hare's plan of double trough and lever. The fluid used for exciting it, was composed of about 40 parts of water, and one part of sulphuric acid. The poles of the battery, were made of very thick leaden wire, soldered to strips of amalgamated copper at one end, upon which the axle of the trough rested, while the other, and free ends, were soldered to small hand vices insulated. Within these vices, we could attach pointed or flattened terminal poles at pleasure. The pointed poles were made of lead, and the flat poles of pieces of sheet copper, six inches long and two wide. A saturated solution of sal ammoniac was employed to wet the skin with.

Electrical Machine.—This was a plate machine, two feet in diameter, and procured from the Lancaster Conservatory of Arts and Sciences. It is perfectly insulated upon glass pillars, and acts well.

Electrical Battery.—This battery is composed of three very large jars, placed in a truncated triangular tin box, and is coated with 3174 square inches of tin foil. The room being crowded for a long time before the electrical experiments were made, of course the battery could not be charged so strongly as in a perfectly dry atmosphere.

Electro-Magnet.—This machine became disordered just before the experiments commenced, and could not be repaired in time to enable us to secure its full force.

Table.—The table on which the body was laid, was a long box well insulated upon four stands of wax. During the galvanic experiments, however, the insulation could not be sustained, in consequence of the crowd pressing in against the table. In the electrical experiments this was satisfactorily secured.

Agreeably to an adjournment announced at the Lancaster prison, on Friday evening, a meeting of the physicians of Lancaster, was held at the house of Dr. Jno. P. Atlee, on Tuesday evening, December 24th, 1839, for the purpose of comparing the notes of the gentlemen who recorded the results. The notes having been carefully revised, corrected, and unanimously adopted, Doctors Washington L. Atlee and Wm. B. Fahnestock were appointed a committee to draw up a report to present to a future meeting for consideration.

Dr. W. L. Atlee offered the following preamble and resolutions, which were unanimously adopted, viz.:

Whereas, Anthony E. Roberts, Esq., sheriff of Lancaster County, having politely permitted the Medical Faculty of Lancaster, to institute a course of valuable experiments upon the body of Henry Cobler Moselmann, and having cordially consented to every arrangement necessary to their successful performance, not inconsistent with the due execution of the laws, Therefore be it unanimously

Resolved, That the thanks of the medical profession, and of men of science generally, are due to the sheriff of Lancaster county, for the facilities afforded by him in performing on the 20th instant a series of most valuable experiments on the body of the criminal Cobler.

Resolved, That medical and general science has been aided by the successful execution of the above experiments, and that executors of the laws in capital

punishment, would be promoting useful knowledge by imitating the commendable example of the present sheriff of Lancaster county.

Resolved, That such a disposition of the body, by adding to our knowledge of the human system, would, in addition to the penalty of the law, be affording one of the best means of making restitution to society for the crimes of a murderer.

Resolved, That the medical gentlemen present at the execution of Cobler, return their thanks to Anthony E. Roberts, Esq., and cannot refrain from expressing their admiration of the firmness, humanity, and strict regard for the laws, exhibited by him in the solemn and painful discharge of his duty.

Resolved, That a copy of the above resolutions be handed to the sheriff of Lancaster county.

Drs. W. L. Atlee and John Miller, were appointed a committee to wait upon the sheriff with a copy of the foregoing resolutions.

Dr. John L. Atlee offered the following, viz.:

Resolved, That the thanks of the physicians of the city of Lancaster, be presented to Dr. Casper W. Pennock of Philadelphia, for his liberality in forwarding for their use his apparatus for artificial respiration, and for ascertaining the causes of the sounds of the heart.

Resolved, That the thanks of the physicians of the city of Lancaster, be presented to the Medical Faculty of Pennsylvania Medical College, for their very generous loan of the galvanic battery of that institution, and more especially to Prof. W. R. Johnson, for the efficient aid rendered by him in the performance of the experiments.

Dr. J. L. Atlee was appointed to communicate the above resolutions.

I have now, gentlemen, concluded that part of the report, which, by a mutual arrangement of the committee, was allotted to me. Careful not to add or omit any thing contained in the original notes, which could in any way affect the character of the experiments as reported and recorded upon the spot, and equally careful to avoid the expression of an opinion respecting the experiments, and making deductions from them, I have given you nothing more nor less than the naked facts themselves. However prolific in valuable truths the experiments may be, it is better to place them before the scientific world just as they are, than attempt to enlighten, or perhaps obscure them by any premature opinions. In this way they will be open to all, and the whole profession, including ourselves, can draw such inferences, and cull such truths as the experiments may warrant.

With many thanks for the honour you have conferred upon me, in placing me upon this committee,

I am, gentlemen, very respectfully, your obed't serv't,

WASHINGTON L. ATLEE, M. D.

To the Physicians of the city of Lancaster.

Lancaster, January 17, 1840.

The above report having been submitted to a meeting of the Medical gentlemen of Lancaster, held at the house of Dr. E. Parry, it was unanimously adopted, and ordered to be offered to the editor of the American Journal of the Medical Sciences for publication.